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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/820,608	03/19/97	SUNAGA T	CU-1516RJS

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EXAMINER	
VANDERPUYE,K	
ART UNIT	**PAPER NUMBER**
2732	19

DATE MAILED: 10/25/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Advisory Action

Application No.	Applicant(s)
08/820,608	Sunaga
Examiner	**Group Art Unit**
Kenneth Vanderpuye	2732

THE PERIOD FOR RESPONSE: [check only a) or b)]

a) ☒ expires 3 months from the mailing date of the final rejection.

b) ☐ expires either three months from the mailing date of the final rejection, or on the mailing date of this Advisory Action, whichever is later. In no event, however, will the statutory period for the response expire later than six months from the date of the final rejection.

Any extension of time must be obtained by filing a petition under 37 CFR 1.136(a), the proposed response and the appropriate fee. The date on which the response, the petition, and the fee have been filed is the date of the response and also the date for the purposes of determining the period of extension and the corresponding amount of the fee. Any extension fee pursuant to 37 CFR 1.17 will be calculated from the date of the originally set shortened statutory period for response or as set forth in b) above.

☐ Appellant's Brief is due two months from the date of the Notice of Appeal filed on _____ (or within any period for response set forth above, whichever is later). See 37 CFR 1.191(d) and 37 CFR 1.192(a).

Applicant's response to the final rejection, filed on Oct 18, 1999 has been considered with the following effect, but is NOT deemed to place the application in condition for allowance:

☐ The proposed amendment(s):

☐ will be entered upon filing of a Notice of Appeal and an Appeal Brief.

☐ will not be entered because:

☐ they raise new issues that would require further consideration and/or search. (See note below).

☐ they raise the issue of new matter. (See note below).

☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal.

☐ they present additional claims without cancelling a corresponding number of finally rejected claims.

NOTE: _____

☐ Applicant's response has overcome the following rejection(s):

_____

☐ Newly proposed or amended claims _____ would be allowable if submitted in a separate, timely filed amendment cancelling the non-allowable claims.

☒ The affidavit, exhibit or request for reconsideration has been considered but does NOT place the application in condition for allowance because:

See attached

☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

☒ For purposes of Appeal, the status of the claims is as follows (see attached written explanation, if any):

Claims allowed: _____

Claims objected to: *2, 3, and 5*

Claims rejected: *1, 4, and 6-17*

☐ The proposed drawing correction filed on _____ ☐has ☐has not been approved by the Examiner.

☐ Note the attached Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Other

Douglas W. Olms

DOUGLAS W. OLMS
SUPERVISORY PATENT EXAMINER
GROUP 2700

ADVISORY ACTION

Response to Arguments

1. Applicant's arguments filed 10/13/99 have been fully considered but they are not persuasive. The applicant has consistently restricted his arguments to what is contained in the specification and not what has been **claimed.** What is claimed is a pilot signal intermittently transmitted ..... The **claim** does not state a unique way for accomplishing this pilot signal transmission or a particular result achieved from this method. Whenever a transmitted signal is pulsed or intermittently transmitted, power is saved. Based on the admitted prior art, saving transmission power is good enough motivation for pulsing or intermittently transmitting a pilot signal. The fact that the purpose of the TDMA control signal is different form the pilot signal is irrelevant. At the transmission side of the communication system if the concern is to save power, it is good enough motivation to pulse both types of signals. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). By giving the broadest interpretation to claims 1, 4, 8, 13, it is conceivable that one could intermittently transmit a pilot signal for the same reasons that Tanaka would intermittently transmit a control signal i.e. to achieve power savings. Reduced power

consumption is achieved both in the mobile and transmitter in Tanaka and this is adequate motivation to combine Tanaka with the admitted prior art. Applicant has further clarified the advantages of his invention over the prior art. However none of these distinctions as argued are incorporated in the claims. The rejections in the previous office action is therefore hereby maintained.

Claim Rejections - 35 U.S.C. § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 1, 4, 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Tanaka(5,636,243).

Claim 1 is rejected because the admitted prior art teaches a CDMA mobile communication system with a pilot channel that transmits a pilot signal in spread spectrum formation and traffic channel transmit units that respectively transmit data signals while the pilot signal is transmitted(Fig. 1 and Fig. 2). As shown in figure in Fig. 5 of the current application, in a CDMA network involving multiple base stations, a pilot signal transmitted by one base station, regardless of whether it is being transmitted intermittently or continuously, is transmitted in synchronism with pilot signals from other base stations. This is evidenced by the timing relationship i.e. offset

time t between base stations(see Fig. 5). The timing offset makes it possible for the pilot signals from the different base stations to be easily distinguishable from each other. What the admitted prior art does not teach is a pilot signal that is intermittently transmitted. Tanaka's invention deals with direct communications between mobile stations in which he discloses a method wherein a single base station transmits an intermittent control signal, in a predetermined control channel(TDMA slot once every 100 msec, Fig. 3), to terminals located within the service area. These terminals communicate with each other by transmitting control and response signals intermittently to establish synchronization therebetween(summary of the invention, also see Fig. 12). In this way less power is expended during the establishment of synchronization. It would have been obvious to one of ordinary skill in the art to incorporate this same concept in the admitted prior art i.e. intermittent transmission of a pilot signal by a CDMA transmitter for the purpose of reducing power consumption.

Claim 4 is rejected because the admitted prior art teaches a CDMA receiver(Fig. 2) comprising: a pilot channel receiver unit which demodulates pilot signals in spread spectrum formation by transmitters while digital signals are sent in respective traffic channels. What the admitted prior art does not teach is the demodulation of intermittently transmitted pilot signal and the detection from the pilot signal a timing for a traffic channel demodulation. Tanaka discloses an intermittent receiving operation whereby the mobile terminal intermittently receives the control signal(Fig. 11). The reasons for combining Tanaka with the admitted prior art are obvious in light of the above rejections. The motivation being that the receiver will require the intermittent timing

signal for the purpose of intermittently synchronize mobile unit in order to demodulate the traffic signal.

Claim 8 is rejected for the same reasons as claims 1 and 4 and in addition to the fact that it is well known in the art that a CDMA mobile communications system is made up of plural base stations and mobile units in order to maintain communication over a wide geographic area.(cells)

Claim 9 and 14 are rejected because the use of offsets is taught by the admitted prior art.

Claims 10-12, 15-17 are rejected because it is well known in the art that the offset time can be changed depending on the extent to which it is practicable for a base station to be distinguished itself from other base stations.

Claim 13 is rejected because the admitted prior art teaches a CDMA mobile communication method comprising steps of: transmitting pilot signals in spread spectrum formation, the admitted prior art does not teach the demodulation of intermittently transmitted pilot signals nor the detection form timing signals a timing for traffic channel demodulation. The reasons for rejecting steps (b) and © are discussed in the rejections of claims 1 and 4.

4. Claim 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Tunica as applied to claim 4 above, and further in view of Marchetto et al(5,414,734).

Claims 6 and 7 are rejected because Marchetto teaches a receiver circuitry that uses the pilot signal to demodulate data affected by fading and interference and compensates for the undesired effects.(see Fig 3@ 96, 100, 92 and 104 also see abstract). It would have been obvious

to one of ordinary skill in the art to incorporate this circuitry in the admitted prior art for the purpose of enabling channel response estimates to be made. The motivation would be to compensate for multi-path interference.

Allowable Subject Matter

5. Claim 2, 3, 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Vanderpuye whose telephone number is (703) 308-7828. The examiner can normally be reached on M-F from 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Olms, can be reached on (703) 305-4703 . The fax phone number for this Group is (703) 308-9051.

Douglas W. Olms

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GROUP 2700

Kenneth Vanderpuye

July 11, 1999